

WHAT IS CLAIMED IS:

Sub P1
5 A process of producing a vehicle grille guard comprising the steps of:
injecting a plastic resin into a mold cavity in an amount less than the
total volume of said mold cavity;
injecting an inert gas into a center portion of said cavity; and
forming a hollow gas channel extending throughout said center portion,
forcing said plastic resin to flow along an outer surface of said cavity;
wherein said grille guard obtains a substantially smooth exterior surface
as said resin flows along said outer surface of said cavity.

2. The process according to claim 1, wherein said plastic resin is a thermoplastic resin.

3. The process according to claim 1, wherein said plastic resin is selected from the group consisting of acrylonitrile-butadiene-styrenes, acrylonitrile-butadiene-styrene/polycarbonate blends, polyesters, polyvinyls, polycarbonate/polyester blends, and mixtures thereof.

4. The process according to claim 1, wherein said inert gas is selected from the group consisting of air, helium, neon, argon, carbon dioxide, nitrogen, and mixtures thereof.

5. The process according to claim 1, wherein said smooth exterior surface is a Class A surface.

6. The process according to claim 1, wherein said vehicle grille guard is formed as one component.

7. The process according to claim 1, wherein said vehicle grille guard comprises multiple components.

8. The process according to claim 7, wherein said vehicle grille guard further comprises brush guard components.

9. A vehicle grille guard produced by gas-assisted injection molding according to a process comprising the steps of:

injecting a plastic resin into a mold cavity in an amount less than the total volume of said mold cavity;

injecting an inert gas into a center portion of said cavity; and
forming a hollow gas channel extending throughout said center portion, forcing said plastic resin to flow along an outer surface of said cavity;

wherein said grille guard obtains a substantially smooth exterior surface as said resin flows along said outer surface of said cavity.

10. The grille guard according to claim 9, comprising a body including a pair of spaced vertically disposed bars having first and second ends and a pair of horizontally extending bars connected to and extending transversely from said vertically disposed bars, wherein each of said vertically disposed bars includes a substantially flat portion located at said second end of said bar for mounting to said vehicle.

11. The grille guard according to claim 9, wherein said plastic resin is a thermoplastic resin.

12. The grille guard according to claim 9, wherein said plastic resin is selected from the group consisting of acrylonitrile-butadiene-styrenes, acrylonitrile-butadiene-styrene/polycarbonate blends, polyesters, polyvinyls, polycarbonate/polyester blends, and mixtures thereof.

13. The grille guard according to claim 9, wherein said inert gas is selected from the group consisting of air, helium, neon, argon, carbon dioxide, nitrogen, and mixtures thereof.

14. The grille guard according to claim 9, wherein said smooth exterior surface is a Class A surface.

15. The grille guard according to claim 10, wherein said grille guard is formed as one component.

16. The grille guard according to claim 15, wherein said pair of horizontally extending bars comprise an elongated loop.

17. The grille guard according to claim 10, wherein said grille guard comprises multiple components.

18. The grille guard according to claim 17, wherein said grille guard comprises brush guard components connected to said horizontally extending bars.